

Claim Amendments:

The claims of this application have been amended as shown in the following marked up version of the claims.

1. (Amended) An anti-methyllysine antibody ~~capable of specifically recognizing methyllysine and not recognizing lysine~~ having all of the following five properties:

(1) specific binding to dimethyllysine and monomethyllysine;

(2) no binding to lysine;

(3) stronger reactivity to dimethyllysine than reactivity to monomethyllysine;

(4) ability to specifically recognize a methyllysine residue in a protein, which is not influenced by surrounding amino acid residues; and

(5) reactivity to animal cell-derived histone and elongation factor 1a.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Amended) The antibody according to claims 1 to 4, which is a polyclonal antibody.

6. (Amended) The antibody according to claims 1 to 4, which is a monoclonal antibody.

7. (Amended) A hybridoma producing an anti-methyllysine antibody and, which is selected from the group consisting of MEK3D7 (Accession No. FERM P-19595), MEK4E10 Accession No. FERMP-19596, MEK5F7 (Accession No. FERM P-19597), MEK2-5A11 (Accession No. FERM P-19593) and MEK2-5B11 Accession No. FERM P-19594.

8. (Original) An anti-methyllysine mouse monoclonal antibody produced by the hybridoma of claim 7.

9. (Amended) A process for producing the polyclonal antibody of claim 5, which comprises immunizing an animal with an antigen obtained by chemically methylating a different protein and subjecting the resulting antibody to affinity purification with methyllysine or a protein obtained by chemically methylating a protein different from the antigen.

10. (Amended) A process for producing the monoclonal antibody of claim 6, which comprises immunizing an animal with an antigen obtained by chemically methylating a

different protein and ~~then~~ selecting a hybridoma secreting an antibody recognizing a protein obtained by chemically methylating a protein different from the antigen.

11. (Amended) A method of detecting a methylated protein, which comprises using the antibody of ~~any of claims 1 to 6 or 8~~.
12. (New) A method of detecting a methylated protein, which comprises using the antibody of claim 5.
13. (New) A method of detecting a methylated protein, which comprises using the antibody of claim 6.
14. (New) A method of detecting a methylated protein, which comprises using the antibody of claim 8.

Preliminary Amendment
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Respectfully submitted,


R. Haferkamp

Reg. No. 29,072
Thompson Coburn LLP
One US Bank Plaza
St. Louis, Missouri 63101
(314) 552-6000
(314) 552-7000 (fax)